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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,407	11/02/2001	Victor C. Wong	82852NAB	9091

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EXAMINER

GODDARD, BRIAN D

ART UNIT

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2161

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/000,407	Applicant(s) WONG ET AL.	
	Examiner Brian Goddard	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 40-111 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 and 40-111 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This communication is responsive to the Amendment filed 23 June 2005.
2. Claims 1-37 and 40-111 are pending in this application. In the Amendment filed 23 June 2005, claims 38 and 39 were cancelled. This action is made Final.

### ***Drawings***

3. The drawings were received on 23 June 2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-5, 8-12, 14, 17-20, 23-39, 41, 44, 47-58, 60-74, 77-78, 80-93, 96-97, 99 and 101-111 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,691,309 to Lorie in view of U.S. Patent Application Publication No. 2001/0056429 to Moore et al.

Referring to claim 1, Lorie discloses a system for long-term preservation of a data record substantially as claimed. See Figures 1-10 and the corresponding portions of Lorie's specification for this disclosure. In particular, Lorie teaches a system for long-term preservation of a data record [See Figs. 2-6], the system comprising:

(a) an input handler [See Fig. 2 & Left half of Fig. 6] for accepting a preservation request to preserve said data record ['object'], for accepting input metadata [See Fig. 6]

associated with said data record to form a metadata record ['O2' (See Fig. 6)], and for conversion of said data record and said metadata record to generate a formatted data record ['encapsulated object' (See Fig. 6)];

(b) a data processor [See Column 12, line 20 et seq.] for accepting said formatted data record and for encoding, from said formatted data record, a print file ['save data bit stream'];

(c) a preservation medium ['removable medium' for recording said print file for long-term preservation [See Abstract & Summary];

(d) a writer [See Column 12, line 20 et seq.] for marking said print file onto said preservation medium to form a human-readable preserved data record [See Abstract & Summary].

Lorie is not explicitly concerned with the storage of the preservation medium after writing, and therefore is silent on the claimed indexing database and storage apparatus for storing an index entry and safekeeping the human-readable data record. However, Lorie does recognize the necessity to catalog (index) and safely store the written data record for future retrieval, as shown in the Background of the Invention section in Column 2, lines 20-32. This provides explicit suggestion for indexing (cataloguing) and storing the human-readable data after writing.

Moore discloses a system and method similar to that of Lorie, wherein the archived data record is stored in a storage apparatus ['long term storage' or 'archival storage'] for safekeeping, and an index entry is generated and stored in an indexing database ['meta-data catalog' (MCAT)] for future retrieval of the archived record. See

Figures 19-25 & 47 and the corresponding portions of Moore's specification for the details of this disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate Moore's indexing and archival storage systems and methods into Lorie's system, to obtain the invention as claimed. One would have been motivated to do so because of Lorie's explicit suggestion, as discussed above, in order to fill Lorie's silence with an efficient archival storage system.

Referring to claim 2, Lorie v. Moore teaches the system of claim 1, as above, further comprising:

(g) a retrieval handler [Moore: retrieval mechanism] for accepting a retrieval request...and

(h) a data recovery apparatus for obtaining, from said human-readable preserved data record, said data record and said input metadata record [Moore: presentation mechanism; Lorie: UVC Interpreter].

Referring to claims 3 & 4, Lorie v. Moore teaches the system of claim 1, as above, wherein said human-readable preserved data record is encoded according to...XML [Lorie: See Column 8, lines 11-65; Moore: See Summary of the Invention and Figs. 3-15] as claimed.

Referring to claims 5, 8-12, 18 and 41 Lorie v. Moore teaches the system of claim 1, as above, wherein said data record encodes an image, audio, numerical data, motion image data, animation image data, image depth data, binary data, or machine-readable data [Lorie: See Fig. 2; Moore: See Figs. 31-33]... as claimed.

Referring to claims 14 and 17, Lorie v. Moore teaches the system of claim 1, as above, wherein said preservation medium comprises a metal plate [Moore: See Fig. 22], and said writer comprises a laser [Lorie: See Column 12, line 20 et seq.; Moore: See Fig. 22].

Referring to claims 19 and 20, Lorie v. Moore teaches the system of claim 1, as above, wherein said indexing database is a relational database or a hierarchical database [Moore: See Fig. 20] as claimed.

Referring to claim 23, Lorie v. Moore teaches the system of claim 2, as above, further comprising an operator interface for accepting said retrieval request [Lorie: See Column 12, line 20 et seq.; Moore: See 'browser'] as claimed.

Referring to claims 24-27, Lorie v. Moore teaches the system of claim 1, as above, wherein said data processor further supplements said metadata record within said formatted data record to add processing data...[Lorie: UVC program & Alphabet info (See Fig. 6)] as claimed.

Claims 28-29 are rejected on substantially the same basis as claims 2 & 24 above. See the discussions regarding claims 1-2 & 24 for the details of this disclosure.

Referring to claims 30-32, Lorie v. Moore teaches the system of claim 1, as above, further comprising... a browser...network...and processor...[Lorie: See Column 12, line 20 et seq.; Moore: See Summary & Detailed Description] as claimed.

Referring to claim 33, Lorie v. Moore teaches the system of claim 1, as above, wherein said metadata record comprises specifications about the metadata format [Lorie: See Fig. 6] as claimed.

Referring to claims 34 and 35, Lorie v. Moore teaches the system of claims 1-2, as above, wherein said input handler further provides preprocessing of said data record...[Lorie: See Left side of Fig. 6] and said data recover apparatus provides postprocessing...[Lorie: See Right side of Fig. 6] as claimed.

Claims 36-39 are rejected on substantially the same basis as claims 24-27 above. See the discussions regarding claims 24-27 for the details of this disclosure.

Referring to claim 44, Lorie v. Moore teaches the system of claim 5, as above, wherein said image comprises color-encoded data [Lorie: See Fig. 2; Moore: See Figs. 31-33] as claimed.

Claims 47 and 48 are rejected on substantially the same basis as claims 3-5 above. See the discussions regarding claims 1-5 for the details of this disclosure.

Claim 49 is rejected on substantially the same basis as claims 24-27 above. See the discussions regarding claims 24-27 for the details of this disclosure.

Claims 50-58 are rejected on substantially the same basis as claims 1, 19, 20, 17, 24-27 and 37 respectively. See the discussions regarding claims 1, 19, 20, 17, 24-27 and 37 above for the details of this disclosure.

Claims 60 and 61 are rejected on substantially the same basis as claim 1. See the discussion regarding claim 1 above for the details of this disclosure.

Claims 62-70, 74, 77-78, 80-93, 96-97, 99 and 101-107 are rejected on substantially the same basis as one or more of claims 2-5, 8-12, 14, 17-20, 23-39, 41, 44, 47-49, in light of the basis for claim 61 above. See the discussions regarding claims

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1-5, 8-12, 14, 17-20, 23-39, 41, 44, 47-49 and 60-61 above for the details of this disclosure.

Referring to claims 71-73, Lorie v. Moore teaches the method of claim 69, as above. The light source of Lorie v. Moore does not explicitly comprise a LET, an OLED, or a lamp as claimed. However, the examiner takes Official Notice that these were common light sources used to write data onto a preservation medium, such as in Lorie v. Moore, at the time the invention was made. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add these light sources to the combination of Lorie v. Moore to obtain the invention as claimed, so as to provide a more comprehensive system with greater capabilities for writing information.

Claim 108 is rejected on substantially the same basis as claim 2. See the discussions regarding claims 1-2 above for the details of this disclosure.

Referring to claims 109-111, Lorie v. Moore teaches a method for expunging a human-readable preserved data record...[Lorie: See UVC; Moore: See all of detailed description]...as in claims 1-2 above.

5. Claims 6-7, 13, 15-16, 21-22, 40, 42-43, 45-46, 59, 75-76, 79, 94-95, 98 and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorie in view of Moore as applied to claim 1 above, and further in view of U.S. Patent No. 6,442,296 to Smith et al.

Referring to claims 6-7, 13 and 15-16, Lorie & Moore are silent on details of the image encoding forms used. Thus, the combination does not explicitly teach that the



image comprises a color separation or a grayscale form as claimed. Further, Lorie and Moore do not explicitly disclose photosensitive, thermal or electrophotographic preservation media.

Smith discloses an archival system and method similar to those of Lorie and Moore, wherein images are archived, and wherein said images comprise a color separation and a grayscale form as claimed. Further, Smith discloses usage of photosensitive, thermal and electrophotographic preservation media. See Figures 1-5 and the corresponding portions of Smith's specification for this disclosure.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate Smith's imaging capabilities and writer capabilities to write to photosensitive, thermal and electrophotographic preservation media, into the combined system of Lorie v. Moore to obtain the invention as claimed. One would have been motivated to do so in order to expand the capabilities of Lorie v. Moore, and to enhance visual characteristics of the archived data.

Referring to claims 21-22, Lorie v. Moore & Smith teaches the system of claim 2, as above, comprising a scanner...that performs OCR [Smith: See Abstract, Summary & Figs. 4-5] as claimed.

Claims 40, 42-43, 45-46, 59, 75-76, 79, 94-95, 98 and 100 are rejected on substantially the same basis as one or more of claims 6-7, 13, 15-16, 21-22 above. See the discussions regarding claims 6-7, 13, 15-16, 21-22 for the details of this disclosure.

### ***Response to Arguments***

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6. Applicants' arguments filed 23 June 2005 have been fully considered but they are not persuasive.

Referring to applicants' remarks on pages 18-19 regarding the Section 103 rejections over Lorie, Moore and Smith: Applicants argued that none of the references disclose preserving the data records in human-readable form.

The examiner disagrees for the following reasons:

First, contrary to applicants' assertions, Lorie addresses the problem of preservation of data itself, independent of future hardware and processing solutions. As clearly shown throughout Lorie's specification, the data itself is preserved. Further, if the data is somehow encoded or encrypted, further data is preserved allowing any person or machine with knowledge of the UVC to decode or decrypt that data. Lorie explicitly states that the purpose of his invention is to provide an architecture independent manner for preserving data (See Abstract, Background, Summary, Claims, etc.), just as applicants contend for the present invention. The examiner submits that applicants may have misinterpreted Lorie's disclosure of the UVC. Lorie's UVC is not a specific architecture, and is completely independent of any specific hardware or architecture. Hence the acronym **Universal Virtual** Computer (emphasis added). A machine or human need only know the UVC language in order to read the data. As a parallel, a machine or human need only "know" the English language to read this document.

Second, applicants' attempt to distinguish between "human-readable form" and "machine-readable form" (i.e. "digital data" stored in binary form) bears no weight here.

Binary form is a language, just as English is a language, French is a language, etc. One only need to understand the rules of the language to read data encoded in that language. Since one or more human beings are capable of reading data encoded in binary form, then it is considered "human-readable" as claimed.

Third, applicants' characterization of Smith as storing data in binary form, "without being expressed in human-readable form" (Response, pg. 19) is simply incorrect. Smith's Title, Abstract, Figure 1 and its corresponding disclosure explicitly state and show that data is written to optical tape in BOTH digital AND "human-readable" (i.e. visual) form. These disclosures fly in the face of applicants' assertions completely.

The combinations of Lorie & Moore, and Lorie, Moore & Smith as repeated in the grounds of rejection above obviate each and every one of applicants' claims. The references teach preserving the data records in human-readable form as claimed.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 571-272-4020. The examiner can normally be reached on M-F, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bdg  
28 October 2005

  
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